Figure 1: Various synthetic pathways for the biosynthesis of DHA (docosahexaenoic acid)

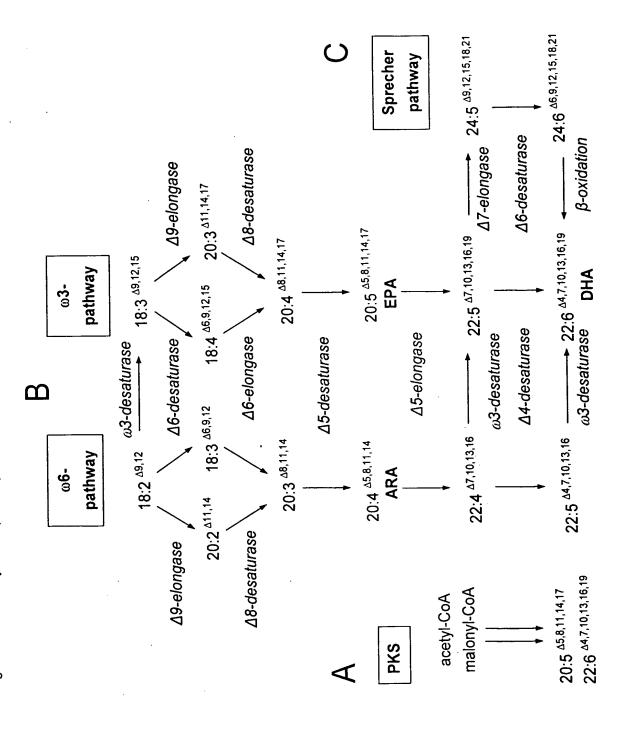


Figure 2: Desaturation of linoleic acid (18:2 ω 6-fatty acid) to α -linolenic acid (18:3 ω 3-fatty acid) by Pi-omega3Des.

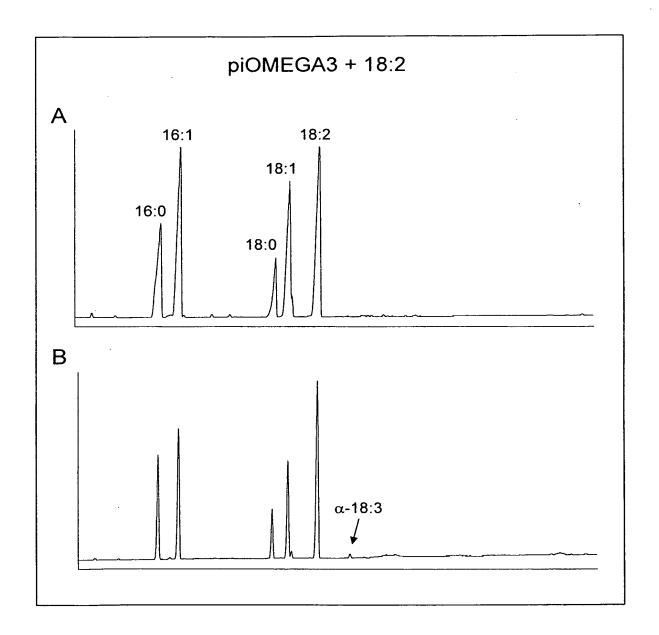


Figure 3: Desaturation of γ -linolenic acid (18:3 ω 6-fatty acid) to stearidonic acid (18:4 ω 3-fatty acid) by Pi-omega3Des.

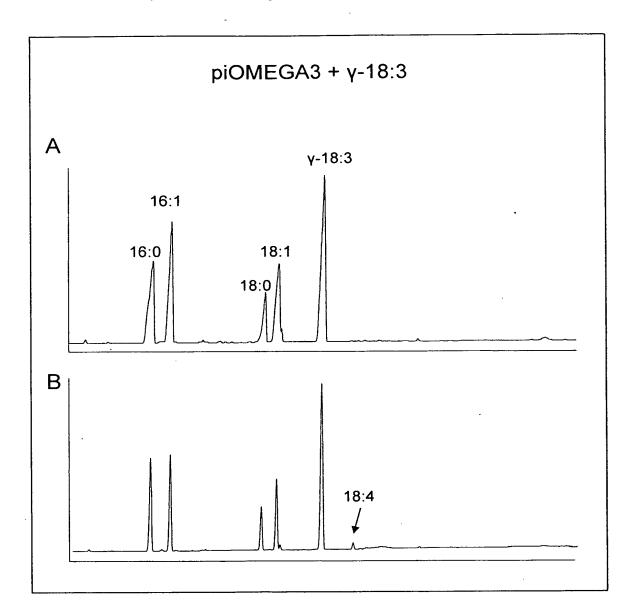


Figure 4: Desaturation of C20:2 ω 6-fatty acid to C20:3 ω 3-fatty acid by Pi-omega3Des.

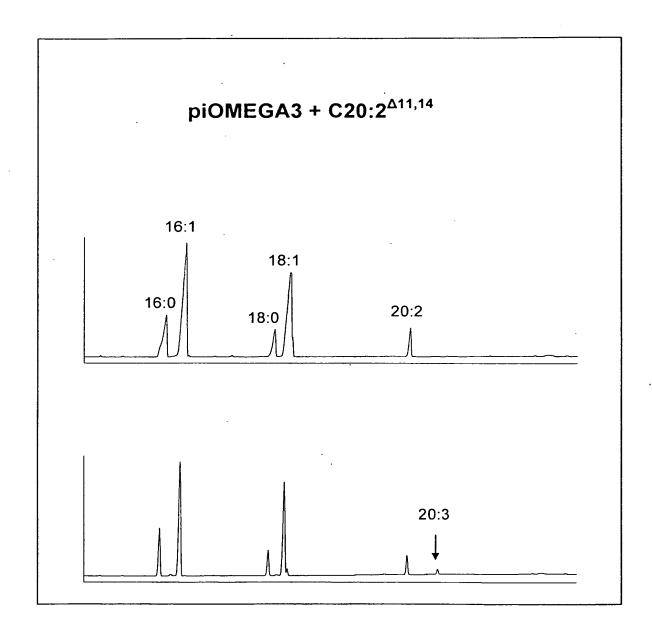


Figure 5: Desaturation of C20:3 ω 6-fatty acid to C20:4 ω 3-fatty acid by Pi-omega3Des.

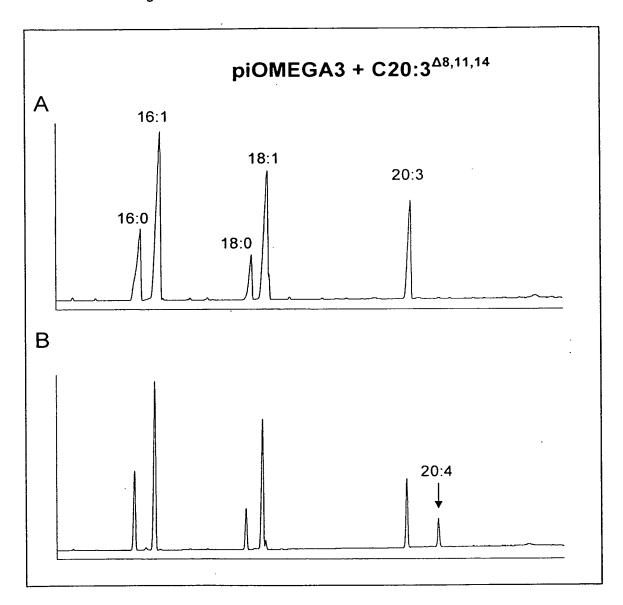


Figure 6: Desaturation of arachidonic acid (C20:4 ω 6-fatty acid) to eicosapentaenoic acid (C20:5 ω 3-fatty acid) by Pi-omega3Des.

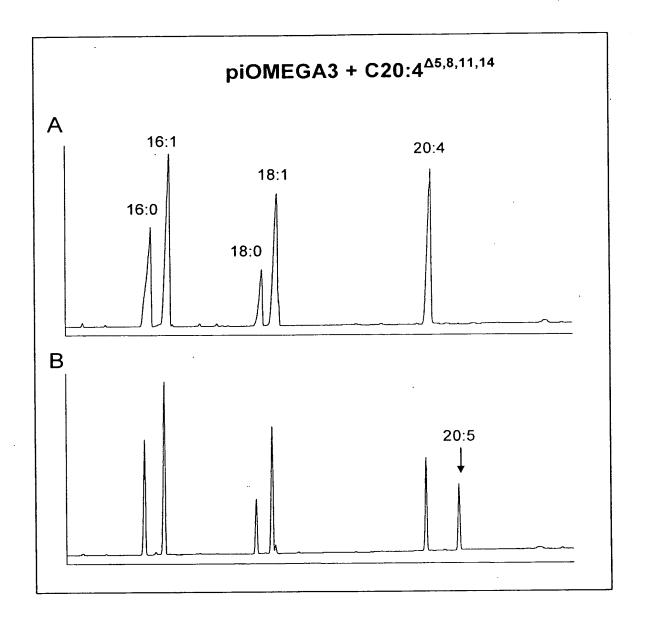


Figure 7: Desaturation of docosatetraenoic acid (C22:4 ω 6-fatty acid) to docosapentaenoic acid (C22:5 ω 3-fatty acid) by Pi-omega3Des.

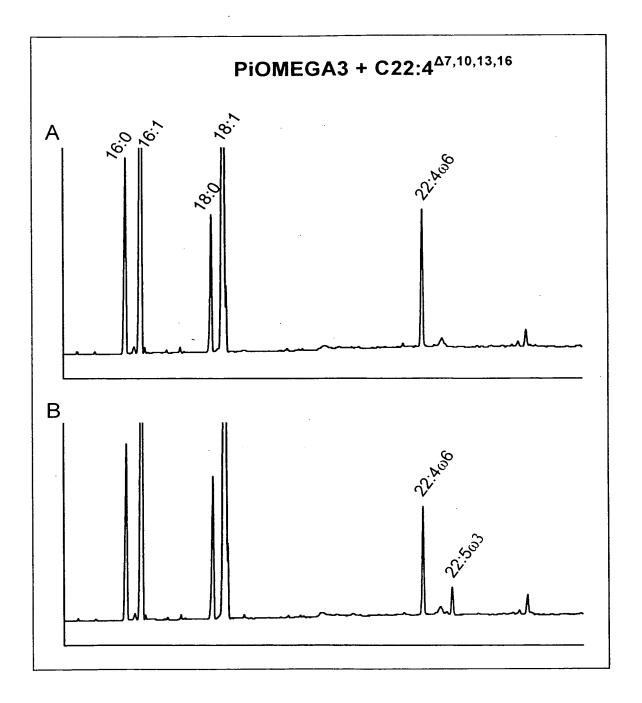
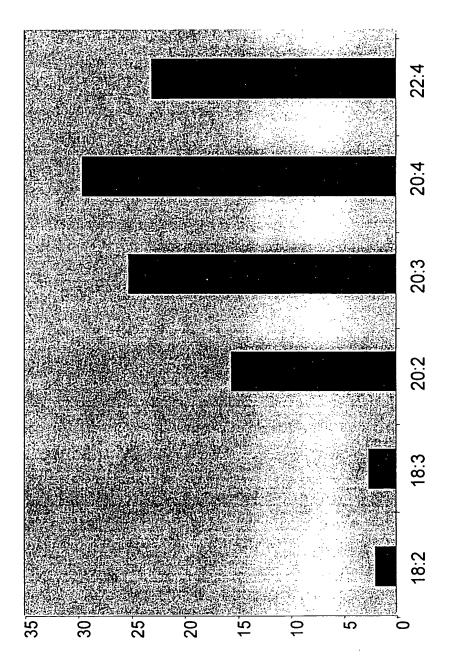


Figure 8: Substrate specificity of Pi-omega3Des with regard to a variety of fatty acids

% desaturation



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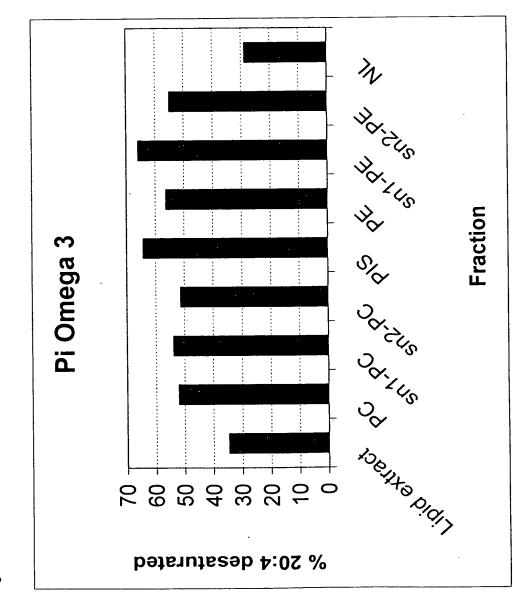


Figure 9: Desaturation of phospholipid-bound arachidonic acid to EPA by Pi-Omega3Des